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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,844

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Meng-Chai Wu

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23562

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11/30/2005

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EXAMINER

VU, PHU

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/758,844

Applicant(s)

WU ET AL.

Examiner

Phu Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 9/9/2005 have been fully considered but they are not persuasive. Applicant has argued that Hiyama fails to teach "at least one light-diffusing" layer coupled to scatter towards the light modulator light outputted from the plurality of converter units in a direction substantially perpendicular to the light diffusing layer. Applicant is claiming a "diffuser" that "scatters" light "substantially" perpendicular however. Therefore, the diffuser of the applicant since it produces light substantially perpendicular to diffuser surface does not appear to limit the structure to a traditional diffuser since it provides a directional output that appears to be "substantially" uniform since the light passing through the diffuser will be perpendicular (interpreted as normal to) to the diffuser surface. Therefore the limitation of a diffuser is interpreted as a device which takes input light and generates light that is substantially perpendicular to the surface which the prism of the reference meets this limitation (see column 11 lines 35-40).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 1-8, and 12-16 rejected under 35 U.S.C. 102(b) as being
anticipated by Hiyama 6104454.**

Regarding claims 1 and 12, Hiyama teaches a display system comprising: a light modulator (fig. 12 element 250), an optical module coupled to the light modulator, wherein the optical converter module comprises: a plurality of converter units wherein one or more of the plurality of converter units comprises: one or more polarizing beam splitters (fig. 14 element 230) configured to transmit a first polarized component (fig. 14 310) of the input light and reflect a second polarized component (fig. 14 element 31 1) of the input light', at least one reflector (fig. 14 element that splits 310 and 31 1) coupled to one or more polarizing beam splitters and configured to direct the second polarized components towards the light modulator', and at least one retardation element (fig. 14 element 234) coupled to one or more of the plurality of polarizing beam splitters and configured to rotate polarization of at least one of the first and second polarized components. The limitation of a diffuser is interpreted as a device which takes input light and generates light that is substantially perpendicular to the surface which the prism of the reference meets this limitation (see arguments above). Hiyama teaches at least one light-diffusing layer coupled to the plurality of converter units and configured to scatter towards the light modulator light outputted from the plurality of converter units in a direction substantially perpendicular to the light-diffusing layer (see column 11 lines 35-40).

Note Figs. 12 & 14 are both used because fig. 14 does not show the liquid crystal element however each backlight is meant to be used in a display.

Regarding claim 2, the retardation film is a quarter wave retardation film (column 13 line 55).

Regarding claim 3, there is a plurality of converter units (see fig. 14).

Regarding claim 4, the light modulator is a liquid crystal panel (see fig. 14 element 250).

Regarding claim 5, the reflectors are polarization beam splitters as the reflector reflects one polarization component up (see fig. 14 element 310) and directs the other component (element 311) toward a retarder to change the polarization state.

Regarding claim 6, the retarders (fig. 14 element 234) are placed between a reflector and polarization beam splitter.

Regarding claim 7, the reference teaches an illumination source coupled to the optical converter and configured to generate the input light (see fig. 14 element 210).

Regarding claim 8, the illumination source is a backlight (see fig. 14 element 210).

Regarding claim 12, claim 1 discloses all the limitations of claim 12.

Regarding claim 13, claim 2 discloses all the limitations of claim 13.

Regarding claim 14, claim 3 discloses all the limitations of claim 14.

Regarding claim 15, claim 5 discloses all the limitations of claim 15.

Regarding claim 16, claim 6 discloses all the limitations of claim 16.

Claims 9-10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiyama in view of Okuyama US 6257726.

Regarding claims 9-10 and 17, Hiyama teaches all the limitations of claims 9-10 and 17 except a plurality of lenses coupled to the plurality of converter units and

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configured to focus the light towards one or more polarizing beam splitters and wherein the lenses are placed linearly parallel to one another in an array arrangement.

Okuyama teaches a plurality of lenses coupled to a polarizing beam splitter wherein the lenses are placed in a linearly parallel to one another in an array arrangement (see fig. 5 element 6) to uniform light outputted from the polarizing beam splitter (see column 5, lines 5-12) which produces more uniform brightness. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to place plurality of lenses coupled to a polarizing beam splitter wherein the lenses are placed in a linearly parallel to one another in an array arrangement to provide more uniform brightness to the display.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu Vu whose telephone number is (571)-272-1562. The examiner can normally be reached on 8AM-5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phu Vu
Examiner
AU 2871


ANDREW SCHECHTER
PRIMARY EXAMINER